

[illegible]

```
FFFFFFFFF 000000 RRRRRRR I11111 NN NN I1111 U U NN NN DDDDDDD
FFFFFFFFF 000000 RRRRRRR I11111 NN NN I1111 U U NN NN DDDDDDD
FF 00 00 RR RR RR I1 NN NN I1 U U NN NN DD DD
FF 00 00 RR RR RR I1 NN NN I1 U U NN NN DD DD
FF 00 00 RR RR RR I1 NN NN I1 U U NN NN DD DD
FFFFFFF 00 00 RRRRRRR I1 NN NN I1 U U NN NN DD DD
FFFFFFF 00 00 RRRRRRR I1 NN NN I1 U U NN NN DD DD
FF 00 00 RR RR RR I1 NN NN I1 U U NN NN DD DD
FF 00 00 RR RR RR I1 NN NN I1 U U NN NN DD DD
FF 00 00 RR RR RR I1 NN NN I1 U U NN NN DD DD
FF 00 00 RR RR RR I1 NN NN I1 U U NN NN DD DD
FF 000000 RR RR RR I11111 NN NN I1111 UUUUUUUU NN NN DDDDDDD
FF 000000 RR RR RR I11111 NN NN I1111 UUUUUUUU NN NN DDDDDDD

LL I11111 SSSSSSS
LL I11111 SSSSSSS
LL I1 SS
LL I1 SS
LL I1 SS
LL I1 SS
LL I1 SSSSSS
LL I1 SSSSSS
LL I1 SS
LL I1 SS
LL I1 SS
LLLLLLLLL I11111 SSSSSSS
LLLLLLLLL I11111 SSSSSSS
```

```

0001 0 %TITLE 'FOR$INIUND - Initialize Fortran underflow handling'
0002 0 MODULE FOR$INIUND (
0003 0 IDENT = '1-001' ! File: FORINIUND.B32 Edit: JAW1001
0004 0 ) =
0005 1 BEGIN
0006 1 ++
0007 1
0008 1 *****
0009 1 *
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0027 1 *
0028 1 *
0029 1 *****
0030 1
0031 1
0032 1 FACILITY: Fortran Support Library
0033 1
0034 1 ABSTRACT:
0035 1
0036 1 This module contains a condition handler for floating underflow
0037 1 exceptions, an exit handler to report the number of underflows
0038 1 at image exit, and an initialization procedure which establishes
0039 1 the condition handler for Fortran main programs.
0040 1
0041 1 ENVIRONMENT: Runs at any access mode - AST reentrant
0042 1
0043 1 AUTHOR: John A. Wheeler, CREATION DATE: 21-Aug-1981
0044 1
0045 1 MODIFIED BY:
0046 1
0047 1 1-001 - Original. JAW 21-Aug-1981
0048 1 --
0049 1

```



```
51 0050 1 %SBTTL 'Declarations'
52 0051 1
53 0052 1 SWITCHES:
54 0053 1
55 0054 1
56 0055 1 SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
57 0056 1
58 0057 1
59 0058 1 LINKAGES:
60 0059 1
61 0060 1 NONE
62 0061 1
63 0062 1 TABLE OF CONTENTS:
64 0063 1
65 0064 1
66 0065 1 FORWARD ROUTINE
67 0066 1 FOR$INIT_UNDER;
68 0067 1
69 0068 1
70 0069 1 INCLUDE FILES:
71 0070 1
72 0071 1
73 0072 1 REQUIRE 'RTLIN:RTLPSECT';
74 0167 1
75 0168 1
76 0169 1 MACROS:
77 0170 1
78 0171 1 NONE
79 0172 1
80 0173 1 EQUATED SYMBOLS:
81 0174 1
82 0175 1 NONE
83 0176 1
84 0177 1 FIELDS:
85 0178 1
86 0179 1 NONE
87 0180 1
88 0181 1 PSECTS:
89 0182 1
90 0183 1
91 0184 1 PSECT
92 0185 1 PLIT = LIB$INITIALIZD ( READ, NOWRITE, NOEXECUTE, NOSHARE, NOPIC,
93 0186 1 CONCATENATE, GLOBAL, ALIGN (2), ADDRESSING_MODE (GENERAL) );
94 0187 1
95 0188 1
96 0189 1 !+ Make LIB$INITIALIZD psect contribution so LIB$INITIALIZE procedure
97 0190 1 will call FOR$INIT_UNDER, which will establish FOR$UNDERFLOW_HANDLER
98 0191 1 as default handler and make coroutine call back. LIB$INITIALIZD is
99 0192 1 used so that FOR$INIT_UNDER will be called before COM_STARTUP, whose
100 0193 1 address is in LIB$INITIALIZE psect.
101 0194 1 !-
102 0195 1
103 0196 1 BIND
104 0197 1 VECT = UPLIT (FOR$INIT_UNDER);
105 0198 1
106 0199 1 !+
107 0200 1 ! Now declare usual PSECTS
```

FOR\$INIUND  
1-001

FOR\$INIUND - Initialize Fortran underflow handl  
Declarations

E 1  
16-Sep-1984 00:26:58  
14-Sep-1984 12:32:01

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[FORRTL.SRC]FORINIUND.B32;1

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```

: 108      0201  1  !-
: 109      0202  1
: 110      0203  1  DECLARE_PSECTS (FOR);           ! Declare PSECTs for FOR$ facility
: 111      0204  1
: 112      0205  1
: 113      0206  1  ! OWN STORAGE:
: 114      0207  1
: 115      0208  1  ! NONE
: 116      0209  1
: 117      0210  1  ! EXTERNAL REFERENCES:
: 118      0211  1
: 119      0212  1
: 120      0213  1  ! EXTERNAL ROUTINE
: 121      0214  1  !   LIB$INITIALIZE,
: 122      0215  1  !   FOR$UNDERFLOW_HANDLER;
: 123      0216  1
: 124      0217  1  !
```

```

126 0218 1 %SBTTL 'FOR$INIT_UNDER - Initialize underflow handling'
127 0219 1 GLOBAL ROUTINE FOR$INIT_UNDER (
128 0220 1     CO_ROUT_INIT,
129 0221 1     CLT_CO_ROUT
130 0222 1 ) =
131 0223 1
132 0224 1 !++
133 0225 1 FUNCTIONAL DESCRIPTION:
134 0226 1
135 0227 1     This routine is called by LIB$INITIALIZE during image startup.
136 0228 1     It establishes FOR$UNDERFLOW_HANDLER as a default underflow
137 0229 1     exception handler and makes a coroutine call back to LIB$INITIALIZE.
138 0230 1
139 0231 1 CALLING SEQUENCE:
140 0232 1
141 0233 1     ret_status.wlc.v = FOR$INIT_UNDER (co_rout_init.ra.v,
142 0234 1                                     cli_co_rout.ra.v)
143 0235 1
144 0236 1 FORMAL PARAMETERS:
145 0237 1
146 0238 1     co_rout_init                                Address of coroutine within
147 0239 1                                                  LIB$INITIALIZE
148 0240 1
149 0241 1     cli_co_rout                                Address of coroutine within CLI
150 0242 1                                                  (not used)
151 0243 1
152 0244 1 IMPLICIT INPUTS:
153 0245 1
154 0246 1     NONE
155 0247 1
156 0248 1 IMPLICIT OUTPUTS:
157 0249 1
158 0250 1     NONE
159 0251 1
160 0252 1 COMPLETION STATUS: (or ROUTINE VALUE:)
161 0253 1
162 0254 1     As returned by main program via LIB$INITIALIZE.
163 0255 1
164 0256 1 SIDE EFFECTS:
165 0257 1
166 0258 1     Makes a coroutine call back to LIB$INITIALIZE, thereby leaving
167 0259 1     the current frame on the stack.
168 0260 1
169 0261 1 !--
170 0262 1
171 0263 2 BEGIN
172 0264 2
173 0265 2     ENABLE
174 0266 2     FOR$UNDERFLOW_HANDLER;
175 0267 2
176 0268 2     !+
177 0269 2     Make coroutine call back to LIB$INITIALIZE.
178 0270 2     !-
179 0271 2
180 0272 2     RETURN (.CO_ROUT_INIT) ();
181 0273 2
182 0274 1 END;

```



FOR\$INIUND  
1-001

FOR\$INIUND - Initialize Fortran underflow handl  
FOR\$INIT\_UNDER - Initialize underflow handling

G 1  
16-Sep-1984 00:26:58  
14-Sep-1984 12:32:01

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[FORRTL.SRC]FORINIUND.B32;1

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```

;
; .TITLE FOR$INIUND FOR$INIUND - Initialize Fortran unde
;                               rflow handl
; .IDENT \1-001\
; .PSECT LIB$INITIALIZD_,NOWRT,NOEXE, GBL,2
;                               00000000' 00000 P.AAA:
;                               VECT=
;                               P.AAA
; .EXTRN LIB$INITIALIZE, FOR$UNDERFLOW_HANDLER
; .PSECT _FOR$CODE,NOWRT, SHR, PIC,2
; .ENTRY FOR$INIT_UNDER, Save nothing
; .MOVAL 1$, (FP)
; .CALLS #0, @CO_ROUT_INIT
; .RET
; .WORD Save nothing
; .CLRL -(SP)
; .PUSHL SP
; .MOVQ 4(AP), -(SP)
; .CALLS #3, FOR$UNDERFLOW_HANDLER
; .RET
;
; Routine Size: 30 bytes, Routine Base: _FOR$CODE + 0000
;
; 183 0275 1
; 184 0276 1 END
; 185 0277 0 ELUDOM
;                               ! End of module FOR$INIUND

```

#### PSECT SUMMARY

Name	Bytes	Attributes
LIB\$INITIALIZD_	4	NOVEC,NOWRT, RD ,NOEXE,NOSHR, GBL, REL, CON,NOPI,ALIGN(2)
_FOR\$CODE	30	NOVEC,NOWRT, RD , EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)

#### COMMAND QUALIFIERS

```

;
; BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACE/LIS=LISS:FORINIUND/OBJ=OBJ$:FORINIUND MSRC$:FORINIUND/UPDATE=(ENH$:FORINIUND
;
; Size: 30 code + 4 data bytes

```

FOR\$INIUND  
1-001

FOR\$INIUND - Initialize Fortran underflow handl<sup>H 1</sup>  
FOR\$INIT\_UNDER - Initialize underflow handling 16-Sep-1984 00:26:58

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: Run Time: 00:02.0  
: Elapsed Time: 00:07.4  
: Lines/CPU Min: 8436  
: Lexemes/CPU-Min: 18761  
: Memory Used: 17 pages  
: Compilation Complete



0181 AH-BT13A-SE  
VAX/VMS V4.0

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FORINTUND  
LIS

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LIS

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LIS

FORIOB  
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